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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,609	03/29/2004	Luke P. Lee	313S-300610US	5428
22798	7590	10/30/2007		
QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C. P O BOX 458 ALAMEDA, CA 94501			EXAMINER WHALEY, PABLO S	
			ART UNIT	PAPER NUMBER
			1631	
			MAIL DATE	DELIVERY MODE
			10/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/814,609	Applicant(s) LEE, LUKE	
	Examiner Pablo Whaley	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-32 is/are pending in the application.
- 4a) Of the above claim(s) 2-5, 10-12, 15-17 and 29-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6, 7, 9, 13, 14, and 18-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>04/23/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

CHANGE OF EXAMINER

It is noted that the Examiner of record has changed. Please address all future responses to Examiner Pablo S. Whaley, USPTO, Art Unit 1631.

Applicants' remarks, filed 08/13/2007, have been fully considered. The following rejections and/or objections are maintained, newly applied, or withdrawn for the reasons set forth below. They constitute the complete set presently being applied to the instant application.

STATUS OF THE CLAIMS

Claims 1, 6, 7, 9, 13, 14, and 18-28 are herein under examination as they read on probe/receptor molecules which are single-stranded oligonucleotides in the reply filed on 11/14/06. Claim 8 has been cancelled. It is again noted that claims 2-5, 10-12, 15-17, and 29-32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention or species, there being no allowable generic or linking claim.

INFORMATION DISCLOSURE STATEMENT

The IDS filed 04/23/2007 has been considered in full.

DRAWINGS

The corrected drawings filed 08/13/2007 are acceptable.

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SPECIFICATION

The amended abstract of the disclosure is not acceptable and is again objected to because the first "sentence" is not a grammatically correct, complete sentence. Correction is required. See MPEP § 608.01(b).

NEW MATTER

Claims 1, 6, 7, 9, 13, 14, and 18-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. This is a NEW MATTER rejection.

Claim 1 has been amended to recite "a plurality of first electrodes, comprising two or more groupings of first electrodes that are not coupled by an electrical conductor." In the response filed 08/13/2007, applicant does not point to support for the newly recited limitations. The Examiner has not found support for these limitations in the specification, and these limitations are not present within the scope of the original claims as filed. As the newly recited limitations are not supported by the originally filed claims or disclosure, the claims are rejected for reciting new matter. This rejection is necessitated by amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, 7, 9, 13, 14, and 18-28 remain rejected under 35 U.S.C. 103(a) as being unpatentable over BERGGREN et al. (IDS ref: Electroanalysis (2001) vol. 13/3, pp. 173-180) in view of BERGGREN et al. (IDS ref: Electroanalysis (1999) vol. 11/3, pp. 156-160) and FONASH et al. (US 2003/0040173, filed 8/14/01).

Applicant's argue that there is no suggestion or teaching in Fonash to provide multiple parallel electrodes with nanogaps having a shared electrode connectivity as is used in the present invention, and that it is not apparent how the fabrication method of Fonash could be modified to produce a device related to the teachings of Berggren. Applicant's arguments are not persuasive for the following reasons:

In response to applicant's arguments, it is noted that the finding of a suggestion or teaching to provide multiple parallel electrodes with nanogaps having a shared electrode connectivity is not required to be disclosed by the Fonash reference, but may come from any knowledge generally available to the artisan. In this case, however, Fonash does provide [FIG. 6] the result of the invention to define multiple parallel nano-channels [0062] and suggests a use as electroded or non-electroded gaps or pore structures. With regards to applicant's second argument, the Examiner maintains that sufficient motivation and discussion of reasonable

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expectation of success has been provided. To reiterate, it would have been obvious to one of ordinary skill in the art at the time of invention to have used the single-stranded oligonucleotides of BERGGREN (1999) as the probes/receptors in the biodetector of BERGGREN (2001) *where the motivation would have been to detect specific DNA molecules at very low concentrations*, as taught by BERGGREN (1999, p. 159, Section 4). *One skilled in the art would reasonably have expected success* in attaching the single-stranded oligonucleotide with the gaps in the biodetector of BERGGREN because both BERGGREN (1999) and (2001) teach attaching molecules using SAM, and FONACH teaches that DNA may be attached in nanogaps on a similar device (para 57). It would further have been obvious to have fabricated the biodetector of BERGGREN (1999 and 2001) with the dimensions and properties taught by FONACH, *where the motivation would have been to fabricate nanoscale features without expensive lithography*, as taught by FONACH (para 13).

With regards to amended claims 1 and 28: Fonash teaches first and second electrodes [0060]. Fonash also teaches interconnected electrodes separated by an insulator except in certain areas, wherein they are directly contacting the fine thickness controllable sacrificial layer, and other areas wherein this thickness-control sacrificial layer is removed (i.e. not coupled) thereby creating a nano-scale molecule positioning/contacting gap area [0055]. Fonash also teach means for measuring dielectric properties [0048], as well as means for applying voltage [0047]. For the above reasons, and for the reasons set forth in the previous office action, this rejection is maintained.

CONCLUSION

No claims are allowed.

Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pablo Whaley whose telephone number is (571)272-4425. The examiner can normally be reached on 9:30am - 6pm.

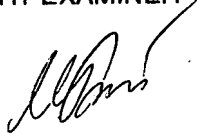
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran can be reached at 571-272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pablo S. Whaley
Patent Examiner
Art Unit 1631
Office: 571-272-4425
Direct Fax: 571-273-4425

MICHAEL BORIN, PH.D
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Michael Borin', is written over the printed name and title.